Digital Engineering Design option - MSc in Computational and Software Techniques in Engineering

www.cranfield.ac.uk/CompEngDesign

Digital Engineering Design (DED) covers the use of computers in all activities from the design to the manufacture of a product. It is at the forefront of information technology and of crucial importance to economies around the world. It is a vital part of many global industries including automotive, aerospace, oil, defence, finance and health.

This specialist option of the Computational and Software Techniques in Engineering MSc has been developed to reflect the wide application of DED and to deliver qualified engineers of the highest standard into industries operating in the fields of computational and software engineering.

Who is it for?

Suitable for candidates from a broad range of engineering and applied mathematical backgrounds, including aeronautic, automotive, mechanical and electrical engineering, in addition to those with a mathematical and computational sciences training, who wish to both develop and complement their existing skill set in these important areas.

The specialist taught modules are designed to provide you with the knowledge, programming techniques and practical skills necessary to develop and use core CED solution software over a wide range of industrial settings.

Your career

The Digital Engineering Design option is tailored to equip you with the skills required to pursue a successful career working both in the UK and overseas. This course attracts enquiries from companies in rapidly-expanding engineering IT industry sector across the EU and beyond who wish to recruit high-quality graduates.

There is considerable demand for students with expertise in engineering software development and for those who have strong technical programming skills in industry standard languages and tools.

Typically, our graduates are employed by software houses and consultancies or by CAD/CAM and other engineering companies in software development roles and industrial research.

A selection of roles and companies that have recruited our graduates include:

- Design Manager, Hindustan Aeronautics Ltd,
- Financial Software Developer, Bloomberg,
- Research Engineer, Moodstocks SAS,
- PLM Consultant, PCO Innovation,
- Analyst, Morgan Stanley.

Overview

Start date
September

Duration
One year full-time, two-three years part-time

Qualification
MSc

Study type
Full-time / part-time

Structure
Taught modules 40%, group project 20%, individual research project 40%

Campus
Cranfield campus

Entry requirements
We welcome applications from talented individuals of all backgrounds and each application is considered on its individual merit. Usually, applicants must hold:

A UK lower second-class (2:2) undergraduate degree with honours, as a minimum, or equivalent international qualification.

Ideally, applicants will have studied in aeronautical, mechanical or electrical engineering or a computer sciences discipline.

Find information about equivalent qualifications in your country on our International entry requirements page.

Applications from candidates with relevant work experience in combination with a degree that does not meet the minimum entry requirement will be considered.

Fees

Please see **www.cranfield.ac.uk/fees** for detailed information about fee status, full-time and part-time fees as well as deposit requirements and bursary and scholarship information.

Course details

Modules

Keeping our courses up-to-date and current requires constant innovation and change. The modules we offer reflect the needs of business and industry and the research interests of our staff. As a result, they may change or be withdrawn due to research developments, legislation changes or for a variety of other reasons. Changes may also be designed to improve the student learning experience or to respond to feedback from students, external examiners, accreditation bodies and industrial advisory panels.

To give you a taster, we have listed below the compulsory and elective (where applicable) modules which are currently affiliated with this course. All modules are indicative only, and may be subject to change for your year of entry

Compulsory modules

All the modules in the following list need to be taken as part of this course.

Computational Methods

C++ Programming

Digital Engineering and Product Design

Computational Optimisation Design

Geometric Modelling and Design

Computational Engineering Fluids

Management for Technology

Computational Engineering Structures

Visualisation

Applications of Computational Engineering Design Optimisation - Group Project

"I applied for this course as I wanted to be more refined in the computer software field. Beyond the course, I can apply what I have learned in the modules, so that I can achieve a sense of accomplishment in my study. In addition, there are many choices in the topic of the thesis which combines interest and professionalism."

Ting Yu Yang
Analyst, J.P. Morgan, Computational and Software Techniques in Engineering MSc (2019)

For more information contact our Admissions Team:
T: +44 (0)1234 758082

Visit campus for yourself and meet current students and our academics at our next Open Day:
www.cranfield.ac.uk/openday

January 2025